DOCUMENT RESUME

ED 235 438 CG 016 973

AUTHOR Taylor, Marcia
TITLE New Concepts in Instrumentation Development to Measure the Perry Scheme.
PUB DATE Mar 83
NOTE 10p.; Paper presented at the Annual Meeting of the American College Personnel Association (Houston, TX, March 13-16, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cognitive Development; *Cognitive Measurement; College Students; Developmental Stages; *Epistemology; Ethics; Higher Education; *Intellectual Development; Moral Development; *Test Construction; *Test Format; Testing Problems
IDENTIFIERS *Perry Developmental Scheme

ABSTRACT

The Perry scheme of intellectual and ethical development has become widely used in a range of academic disciplines and such areas as career training and faculty consultation. However, current measurement techniques for the scheme, whether interview format or paper and pencil measures, do not adequately address issues related to assessing cognitive development. Problematic factors include: (1) all kinds of development occur simultaneously making separation of strands of development difficult; (2) people may exhibit behaviors representative of more than one developmental level; and (3) signs that appear in earlier stages reappear later in more complex forms. To address these shortcomings, college students (N=155) completed the Measure of Intellectual Development (MID) and a newly constructed scale, the Measure of Epistemological Reflection (MER). The MER uses a series of questions for each of the six different domains (decision making, role of peers, role of learners, role of instructor, evaluation, and nature of knowledge) relevant to the Perry Scheme. Follow-up probes assist in obtaining sufficient data to elaborate on the respondent's thinking and to reveal the reasoning structure being used; this structure is the unit of analysis for rating. Preliminary percentage agreement between expert raters on the first 84 protocols was 60% exact position agreement. (WAS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED235438

NEW CONCEPTS IN INSTRUMENTATION DEVELOPMENT TO MEASURE THE PERRY SCHEME

Presented at the American College and Personnel Association National Convention
Houston, Texas, March 1983

CG 016973

Taylor, Marcia © 1983

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Marcia Taylor
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

New Concepts in Measurement of Cognitive Development on the Perry Scheme

Introduction

Since publication of the Perry scheme of intellectual and ethical development (Perry, 1970), many researchers have shown an interest in applying the theory to practice. Widick (1974) and Knefelkamp (1975) were among the first to apply the theory in instruction. Application in instruction has included a range of academic disciplines: english literature (Knefelkamp, 1975; Widick, 1974), mathematics (Copes, 1974), english drama (Sorum, 1976), counselor education (Knefelkamp & Cornfeld, 1977), history (Widick & Simpson, 1978), and engineering (Culver & Hackos, 1981). The scheme has also been applied in curriculum design (Kovac, 1977), faculty consultation (Parker, 1978), health career training (Nowakowski & Laughner, 1978) and career development (Slepitza & Knefelkamp, 1976). This widespread use of the scheme to move from theory to practice warrants attention to measurement of the scheme.

Measurement to Date

Following publication of Perry's scheme, work on measurement began in two directions. One direction focused on interview formats, the first of which involved asking respondents to choose statements from sets presented and talk about their choices (Clinchy & Zimmerman, 1975). Kurfiss (1977) devised a similar strategy involving respondents paraphrasing paragraphs. Both

methods rested on the assumption that respondents would be able to accurately discuss statements or paragraphs representative of their developmental level. Kitchener (1977) and King (1977), originally exploring the commitment phases of Perry's scheme developed an interview based on dilemmas in which the interviewer probed respondents thinking. The second direction focused on paper and pencil tests. Widick (1974) and Knefelkamp (1975) developed the first paper and pencil measure, called the KneWi. It consisted of five sentence stems and two essays intended to elicit students thinking on topics relevant to the Perry scheme. While this instrument is still in use, Knefelkamp has developed a revised version called the Measure of Intellectual Development (Moore, 1982). The MID consists of two essays and is accompanied by an elaborate rating system based on on-going research at the Center for Application of Developmental Instruction at the University of Maryland.

Measurement techniques to date do not adequately address issues related to assessing cognitive development. Major issues pointed out by Loevinger and Wessler (1970) indicate the need for improved measurement techniques for the Perry scheme. Loevinger and Wessler point out that all kinds of development occur simultaneously, making separation of strands of development difficult. It is possible that subjects exhibit behaviors representative of more than one developmental level. In addition, signs that appear in earlier stages reappear later in more complex forms. All of these factors lead to error in matching behavioral signs to underlying development.

These issues point to general criteria needed for improved measurement. Clear and specific descriptions of qualitative differences are necessary to distinguish intellectual development from other strands and assist in matching behavioral signs to development. Stimuli are needed that elicit specific differences in sufficient detail. Finally, a comprehensive rating manual is necessary to distinguish signs of development across the scheme. These general criteria have led to the construction of the Measure of Epistemolcgical Reflection (Taylor, 1983).

Construction of the Measure of Epistemological Reflection (MER)

In order to address the criteria above, the format of the MER separates content areas relevant to the Perry scheme, addressing six different domains. One series of questions exists for each of the six domains including decision-making, role of peers in the learning process, role of the learner, role of the instructor, evaluation, and the nature of knowledge. The separation of content areas by question serves to elicit data specific to that domain, and eliminates the need to separate content when rating (Gibbs & Widaman, 1982). Each question provides a context to focus the respondents thinking on the domain, and asks for an initial perspective. For example, the role of peers question begins by asking for the respondent's preference about whether students should "talk a lot" or "not very much" in class. Follow-up probes ask for the advantages and disadvantages of the choice made and serve to elicit the reason the respondent holds a particular preference. Thus the questions do not structure the frame of reference of the respondents but

only the context in which they respond. The follow-up probes assist in obtaining sufficient data to elaborate on the respondent's thinking and reveal the reasoning structure in use. This structure becomes the unit of analysis for rating, a concept similar to Kohlberg's (1976) criterion judgement.

The construction of a comprehensive rating manual to accompany the MER is based on Loevinger and Wessler's (1970) work. The manual is divided by content area such that a separate manual section exists for each question. The manual contains a general description of each positon followed by reasoning structures relevant to that position. Examples are included under each reasoning structure to assist the rater in clearly understanding each structure. Raters match the respondent's reasoning structure to those in the manual is order to assign position ratings. As in Loevinger and Wessler's empirical verification paradigm, the raters identify new categories as necessary during the rating process. The construction of the MER rating manual has taken place in two phases. Initially a preliminary manual was constructed on the basis of Perry's theory and examples from pilot data. This manual was used to rate 84 protocols. Following completion of these protocols, the raters engaged in a decoding process in order to revise the manual empirically (Loevinger & Wessler, 1970; Tamashiro, 1981). The revised manual is currently in use to rate 71 additional protocols on the basis of specific reasoning structures.

Evaluation of the MER

Evaluation of the MER involves a sample of 155 students

enrolled at The Ohio State University. The sample consists of 50 freshmen, 23 seniors, 43 graduate students under age 30, and 39 graduate students over age 30. Freshmen were selected from a convenient sample of students enrolled in an introductory psychology course, while the remaining subjects were selected randomly from the student population. Subjects completed both the MER and the MID in order to provide an opportunity for validation of the MER. Preliminary percentage agreement between expert raters on the first 84 protocols was 60% exact position agreement. Data is currently being analyzed to determine interrater reliability for the entire sample, internal consistency of the instrument and validity of the MER.

REFERENCE NOTES

1. Sorum, J. & Knefelkamp, L. "Developmental Instruction in the Liberal Arts: A Dialogue." Presentation at the Bureau of Study Counsel, Harvard University, 1976.

2. Knefelkamp, L. L. & Cornfeld, J. L. "Application of Student Development Theory to Graduate Education: The Developmental Instruction Design of a year-long Counselor Education Curriculum." Paper presented at the American College Personnel Association National Convention, Denver, 1977.

3. Culver, R. & Hackos, J. "Perry's Model for Intellectual Development: Implications for Engineering Education." Paper presented to American Society of Engineering Education Conference, 1981.

4. Kovacs, D. "Development of Cognitive, Coping and Relational Abilities Through the Study of Participation in the University." Paper presented at Third International Conference on Improving University Teaching. Newcastle-on-Tyne, England, 1977.

5. Nowakowski, L. & Laughney, J. "Health Education: Theory of Curriculum Design - Developmental Implementation." Unpublished manuscript, School of Nursing, Georgetown University, 1978.

6. Clinchy, B. & Zimmerman C. "Cognitive Development in College." Unpublished manuscript. Wellesly College, Wellesly, Massachusetts, 1975.

7. Moore. W. Personal communication. May 20, 1982.

8. Tamashiro, R. Seminar on Coding Methodology. The Ohio State University, 1981.

BIBLIOGRAPHY

Copes, L. "Teaching Models for College Mathematics." Doctoral dissertation, Syracuse University, 1974.

Gibbs, J. C. & Widaman, K. F. Social Intelligence: Measuring the Development of Sociomoral Reflection. Englewood Cliffs: Prentice-Hall, Inc., 1982.

King, P. M. "The Development of Reflective Judgment and Formal Operational Thinking in Adolescents and Young Adults." Doctoral dissertation, University of Minnesota, 1977.

Kitchener, K. S. "Intellectual Development in Late Adolescents and Young Adults: Reflective Judgement and Verbal Reasoning." Doctoral dissertation, University of Minnesota, 1977.

Knefelkamp, L. "Developmental Instruction: Fostering Intellectual and Personal Growth of College Students." Doctoral dissertation, University of Minnesota, 1974.

Knefelkamp, L. L. & Slepitza, R. A. "A Cognitive Developmental Model of Career Development: An Adaptation of the Perry Scheme." The Counseling Psychologist, 1976, 6(3), 53-58.

Kohlberg, L. "Moral Stages and Moralization: The Cognitive-Developmental Approach." In T. Lickona (Ed.), Moral Development and Behavior. New York: Holt, Rinehart & Winston, 1976.

Kurfiss, J. "Sequentiality and Structure in a Cognitive Model of College Student Development." Developmental Psychology, 1977, 13: 565-571.

Loevinger, J. & Wessler, R. Measuring Ego Development, Volume One. San Francisco: Jossey-Bass, Inc., 1970.

Parker, C. A. "Individualized Approach to Improving Instruction." National Association of Colleges and Teachers of Agriculture Journal, 1978, 22, 14-28.

Perry, W. G. Forms of Intellectual and Ethical Development in the College Years: A Scheme. New York: Holt, Rinehart & Winston, 1970.

Taylor, M. "The Development of the Measure of Epistemological Reflection." Doctoral dissertation, The Ohio State University, 1983.

Widick, C. "An Evaluation of Developmental Instruction in a University Setting." Doctoral dissertation, University of Minnesota, 1975.

Widick, C. & Simpson, D. "Developmental Concepts in College Instruction." In C. Parker (Ed.), Encouraging Development in College Students. Minneapolis: University of Minnesota, 1978.